| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/619,046 | 07/14/2003 | Seung-Jae Han | 4-4 | 6070 |

32498          7590          06/05/2007
CAPITOL PATENT & TRADEMARK LAW FIRM, PLLC
ATTN: JOHN CURTIN
P.O. BOX 1995
VIENNA, VA 22183

| EXAMINER |
|---|
| NGUYEN, KHAI MINH |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2617 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 06/05/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/619,046 | HAN ET AL. |
| | Examiner | Art Unit | |
| | Khai M. Nguyen | 2617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _05 March 2007_.

2a)☐ This action is **FINAL**.　　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1-36_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-3,5,7,8,11-14,16,18,19,22-27,29,31,32,35 and 36_ is/are rejected.

7)☒ Claim(s) _4,6,9-10,15,17,20-21,28,30, and 33-34_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

## DETAILED ACTION

1.     In view of the Appeal brief filed on 3/5/2007, PROSECUTION IS HEREBY

REOPENED.  A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the

following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply

under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed

by an appeal brief under 37 CFR 41.37.  The previously paid notice of appeal fee and

appeal brief fee can be applied to the new appeal.  If, however, the appeal fees set forth

in 37 CFR 41.20 have been increased since they were previously paid, then appellant

must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by

signing below: Joseph Feild

### *Claim Rejections - 35 USC § 103*

2.     The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5, 7-8, 11-14, 16, 18-19, 22-27, 29, 31-32, and 35-36 are rejected

under 35 U.S.C. 103(a) as being unpatentable over Brody et al. (U.S.Pat-4670899) in

view of Salonaho (U.S.Pat-6208863).

Regarding claim 1, Brody teaches a method for calculating a transmission

characteristic threshold for use in assigning a user to one layer in a plurality of cells in a

wireless communications network (fig.1-2, abstract), said method comprising:

calculating a first balancing metric based on an operating characteristic of said

first cell (fig.3-5b, col.7, lines 4-24, col.11, lines 14-55),

calculating a second balancing metric based on an operating characteristic of

said second cell (fig.3-5b, col.7, lines 4-24, col.11, lines 14-55).

Brody fails to specifically discloses the first layer and second layer, and adjusting

said transmission characteristic threshold in response to the value of said first balancing

metric relative to said second balancing metric. However, Salonaho teaches first layer

(macrocell) and second layer (microcell), and adjusting said transmission characteristic

threshold in response to the value of said first balancing metric relative to said second

balancing metric (abstract). Therefore, it would have been obvious to one having

ordinary skill in the art at the time the invention was made to apply the teaching of

Salonaho to Brody to provide balance the channel utility between the micro cell and

macro cell.

Regarding claim 2, Brody and Salonaho further teach the method of claim 1

further comprising the step of assigning said user to a layer in response to the value of

a first user transmission characteristic of a transmission from said user relative to said

adjusted transmission characteristic threshold (see Salonaho, abstract, col.3, line 10 to

col.4, line 27).

Regarding claim 3, Brody and Salonaho further teach the method of claim 1 wherein said transmission characteristic threshold is a threshold corresponding to the size of the data to be transmitted to or from said user (see Salonaho, abstract, col.3, line 10 to col.4, line 27).

Regarding claim 5, Brody and Salonaho further teach the method of claim 1 wherein said transmission characteristic threshold is a threshold corresponding to the velocity of said user (see Brody, col.6, lines 43-56, col.7, lines 4-24, see Salonaho, col.3, line 10 to col.4, line 27).

Regarding claim 7, Brody and Salonaho further teach the method of claim 1 wherein said first operating characteristic corresponds to an average number of users (see Brody, fig.13, col.24, lines 6-28, col.25, line 50 to col.26, line 7).

Regarding claim 8, Brody and Salonaho further teach the method of claim 1 wherein said first operating characteristic corresponds to the expected system load as seen by said user (see Brody, col.7, lines 4-41, see Salonaho, col.3, line 10 to col.4, line 27).

Regarding claim 11, Brody and Salonaho further teach the method of claim 8 wherein said first balancing metric is determined by calculating the number of users in the first layer of said network (see Salonaho, col.3, lines 28-34) and said second balancing metric is determined by calculating the number of users in said second layer of said network (see Salonaho, col.3, lines 28-34).

Regarding claim 12, Brody teaches apparatus for calculating a transmission

characteristic threshold for use in assigning a user to one layer in a plurality of cells in a

wireless communications network (fig.1-2, abstract), said apparatus comprising:

means for calculating a first balancing metric based on an operating

characteristic of said first cell (fig.3-5b, col.7, lines 4-24, col.11, lines 14-55);

means for calculating a second balancing metric based on an operating

characteristic of said second cell (fig.3-5b, col.7, lines 4-24, col.11, lines 14-55); and

Brody fails to specifically discloses the first layer and second layer, and adjusting

said transmission characteristic threshold in response to the value of said first balancing

metric relative to said second balancing metric. However, Salonaho teaches first layer

(macrocell) and second layer (microcell), and adjusting said transmission characteristic

threshold in response to the value of said first balancing metric relative to said second

balancing metric (abstract). Therefore, it would have been obvious to one having

ordinary skill in the art at the time the invention was made to apply the teaching of

Salonaho to Brody to provide balance the channel utility between the micro cell and

macro cell.

Regarding claim 13, Brody and Salonaho further teach the apparatus of claim 12

further comprising means for assigning said user to a layer in response to the value of a

first user transmission characteristic of a transmission from said user relative to said

adjusted transmission characteristic threshold (see Salonaho, abstract, col.3, lines 28-

34).

Regarding claim 14, Brody and Salonaho further teach the apparatus of claim 12

wherein said transmission characteristic threshold is a threshold corresponding to the

size of the data to be transmitted to or from said user (see Salonaho, abstract, col.3, line 10 to col.4, line 27).

Regarding claim 16, Brody and Salonaho further teach the apparatus of claim 12 wherein said transmission characteristic threshold is a threshold corresponding to the velocity of said user (see Brody, col.6, lines 43-56, col.7, lines 4-24, see Salonaho, col.3, line 10 to col.4, line 27).

Regarding claim 18, Brody and Salonaho further teach the apparatus of claim 12 wherein said first operating characteristic corresponds to an average number of users (see Brody, fig.13, col.24, lines 6-28, col.25, line 50 to col.26, line 7).

Regarding claim 19, Brody and Salonaho further teach the apparatus of claim 12 wherein said first operating characteristic corresponds to the expected system load as seen by said user (see Brody, col.7, lines 4-41, see Salonaho, col.3, line 10 to col.4, line 27).

Regarding claim 22, Brody and Salonaho further teach the apparatus of claim 18 wherein said first balancing metric is determined by calculating the number of users in the first layer of said network (see Salonaho, col.3, lines 28-34) and said second balancing metric is determined by calculating the number of users in said second layer of said network (see Salonaho, col.3, lines 28-34).

Regarding claim 23, Brody teaches an assignment manager for assigning a user to one layer in a plurality of cell in a wireless communications network (fig.1-2, abstract), said assignment manager (fig.1-2, element 20) comprising:

a first circuit for calculating a first balancing metric based on an operating

characteristic of said first cell (fig.3-5b, col.7, lines 4-24, col.11, lines 14-55);

a second circuit for calculating a second balancing metric based on an operating

characteristic of said second cell (fig.3-5b, col.7, lines 4-24, col.11, lines 14-55); and

Brody fails to specifically disclose first layer and second layer, and a third circuit

for adjusting a transmission characteristic threshold in response to the value of said first

balancing metric relative to said second balancing metric. However, Salonaho teaches

first layer (macrocell) and second layer (microcell), and a third circuit for adjusting a

transmission characteristic threshold in response to the value of said first balancing

metric relative to said second balancing metric (abstract). Therefore, it would have been

obvious to one having ordinary skill in the art at the time the invention was made to

apply the teaching of Salonaho to Brody to provide balance the channel utility between

the micro cell and macro cell.

Regarding claims 24, 26, and 36, Brody and Salonaho further teach the

assignment of claim 23 wherein said first circuit, said second circuit, said third circuit

and said fourth circuit are the same circuit (see Salonaho, abstract).

Regarding claim 25, Brody and Salonaho further teach the assignment manager

of claim 23 further comprising a fourth circuit for assigning said user to a layer in

response to the value of a first user transmission characteristic of a transmission from

said user relative to said adjusted transmission characteristic threshold (see Salonaho,

abstract, col.3, line 10 to col.4, line 27).

Regarding claim 27, Brody and Salonaho further teach the assignment manager

of claim 23 wherein said transmission characteristic threshold is a threshold

corresponding to the size of the data to be transmitted to or from said user (see

Salonaho, abstract, col.3, line 10 to col.4, line 27).

Regarding claim 29, Brody and Salonaho further teach the assignment manager

of claim 23 wherein said transmission characteristic threshold is a threshold

corresponding to the velocity of said user (see Brody, col.6, lines 43-56, col.7, lines 4-

24, see Salonaho, col.3, line 10 to col.4, line 27).

Regarding claim 31, Brody and Salonaho further teach the assignment manager

of claim 23 wherein said first operating characteristic corresponds to an average

number of users (see Brody, fig.13, col.24, lines 6-28, col.25, line 50 to col.26, line 7,

see Salonaho, col.3, line 10 to col.4, line 27).

Regarding claim 32, Brody and Salonaho further teach the assignment manager

of claim 23 wherein said first operating characteristic corresponds to the expected

system load as seen by said user (see Brody, col.7, lines 4-41, see Salonaho, col.3, line

10 to col.4, line 27).

Regarding claim 35, Brody and Salonaho further teach the assignment manager

of claim 32 wherein said first balancing metric is determined by calculating the number

of users in the first layer of said network (see Salonaho, col.3, lines 28-34) and said

second balancing metric is determined by calculating the number of users in said

second layer of said network (see Salonaho, col.3, lines 28-34).
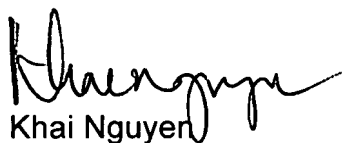
### Allowable Subject Matter

3.      Claims 4, 6, 9-10, 15, 17, 20-21, 28, 30, and 33-34 are objected to as being

dependent upon a rejected base claim, but would be allowable if rewritten in

independent form including all of the limitations of the base claim and any intervening

claims.

## *Conclusion*

4.      Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Khai M. Nguyen whose telephone number is

571.272.7923.  The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Joseph feild can be reached on 571.272.4090.  The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system.  Status information for published applications

may be obtained from either Private PAIR or Public PAIR.  Status information for unpublished

applications is available through Private PAIR only.  For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you

would like assistance from a USPTO Customer Service Representative or access to the

automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Khai Nguyen
Au: 2617

5/18/2007

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER